CLAIMS (26214)

What is claimed is:

1.   A method for performing time tracking of two or more paths of a spread spectrum signal in a spread spectrum communications receiver using correlations of the received spread spectrum code with a local code replica at time instants which are early, late and on_time relative to the perceived path arrival time, thereby providing statistics at these instances, comprising the steps of:

(a)   determining the mutual distances between the on_time instance of one path and the early, and/or late, and/or on_time instance as used by the time tracking unit of the other path.

(b)   determining whether any of said distances is smaller than one element of said spread spectrum code,

(c)   changing the separation between early and on_time, and late and on_time instances if any of said distances in (b) is smaller than one element of the spread spectrum code.

2.   A method for performing time tracking of two or more paths of a spread spectrum signal in a spread spectrum communications receiver using correlations of the received spread spectrum code with a local code replica at time instants which are early, late and on_time relative to the perceived path arrival time, thereby providing statistics at these instances, comprising the steps of:

(a)   determining the mutual distances between the on_time instance of one path and the early, and/or late, and/or on_time instance as used by the time tracking unit of the other path.

(b)   determining whether any of said distances is smaller than one element of said spread spectrum code,

(c)   disregarding updates of said time tracking unit corresponding to the path having smaller power than the other path if any of said distances in (b) is smaller than one element of the spread spectrum code.

3.   The system of 2 where further demodulation of path with disregarded updates of said time tracking unit is based on a power measurement at time instant prior

4   The system of 2 where path with disregarded updates of said time tracking unit is not further considered for demodulation.

5   A method for performing time tracking of two or more paths of a spread spectrum signal in a spread spectrum communications receiver using correlations of the received spread spectrum code with a local code replica at time instants which are early, late and on_time relative to the perceived path arrival time, thereby providing statistics at these instances, comprising the steps of:

(a)   determining the mutual distances between the on_time instance of one path and the early, and/or late, and/or on_time instance as used by the time tracking unit of the other path,

(b)   determining whether any of said distances is smaller than one element of said spread spectrum code,

(c)   disregarding updates of said time tracking unit corresponding to the path having smaller power than the other path if said updates make the distance between the "on_time" instances of the two paths less than one of said code element.

6. The system of 5 where further demodulation of path with disregarded updates of said time tracking unit is based on a power measurement at time instant prior

7. The system of 5 where path with disregarded updates of said time tracking unit is not further considered for demodulation.

8. A method for performing time tracking of two or more paths of a spread spectrum signal in a spread spectrum communications receiver using correlations of the received spread spectrum code with a local code replica at time instants which are early, late and on_time relative to the perceived path arrival time, thereby providing statistics at these instances, comprising the steps of:

(a) determining the mutual distances between the on_time instance of one path and the early, and/or late, and/or on_time instance as used by the time tracking unit of the other path

(b) determining whether any of said distances is smaller than one element of said spread spectrum code,

(c) measuring the power of said paths

(d) evaluating and subtracting, based on said distances and power of said path, the contribution of each path on the statistic value of said early, and/or said on_time, and/or said late instance of the other path.